

What Is Claimed Is:

1. Apparatus for securing a flexible filament,
5 said apparatus comprising:

a bone fixation element having a distal end and a proximal end, a central bore extending between said distal end and said proximal end, and a threaded counterbore opening on said proximal end and terminating short of said distal end, said central bore having a first diameter large enough to receive the flexible filament therethrough, said threaded counterbore having a second larger diameter; and

a threaded collet having a distal end and a proximal end, said distal end comprising a leading tapered section and said proximal end comprising a trailing threaded section, a collet bore extending between said distal end and said proximal end, said collet bore at said leading tapered section having an initial diameter, and said leading tapered section

having a slit formed therein for selectively reducing
said initial diameter of said collet bore,

wherein screwing said trailing threaded section
of said threaded collet into said threaded counterbore
5 of said bone fixation element forces said leading
tapered section of said threaded collet radially
inwardly so as to reduce said initial diameter of said
collet bore, whereby to clamp the flexible filament to
said threaded collet and, in turn, to said bone
fixation element.

2. Apparatus for reconstructing a ligament,
said apparatus comprising:

a bone fixation element having a distal end and a
proximal end, and a central bore extending between
said distal end and said proximal end, said central
bore having a first diameter, and said bone fixation
element being adapted for positioning in a bone
tunnel;

20 a flexible filament having a distal end and a
proximal end, said distal end having retaining means

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for holding a graft ligament, and said flexible filament having a second diameter smaller than said first diameter so as to allow said flexible filament to slidingly pass through said central bore of said bone fixation element, whereby said flexible filament holding the graft ligament in the bone tunnel is slideably positionable through said central bore of said bone fixation element; and

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a crimp having retaining means for attachment to said flexible filament, said crimp having a third diameter, said third diameter being greater than said first diameter, whereby said crimp is fixedly positionable to said flexible filament adjacent to said proximal end of said bone fixation element so as to prevent distal movement of said flexible filament relative to said bone fixation element and hence prevent distal movement of said graft ligament in the bone tunnel.

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3. A method for securing a flexible filament, said method comprising:

providing apparatus for securing a flexible filament, said apparatus comprising:

5 a bone fixation element having a distal end and a proximal end, a central bore extending between said distal end and said proximal end, and a threaded counterbore opening on said proximal end and terminating short of said distal end, said central bore having a first diameter large enough to receive the flexible filament therethrough, said threaded counterbore having a second larger diameter; and

10 a threaded collet having a distal end and a proximal end, said distal end comprising a leading tapered section and said proximal end comprising a trailing threaded section, a collet bore extending between said distal end and said proximal end, said collet bore at said leading tapered section having an initial diameter, and said leading tapered section having a slit formed therein for selectively reducing said initial diameter of said collet bore,

15 20 wherein screwing said trailing threaded section of said threaded collet into said threaded

counterbore of said bone fixation element forces said leading tapered section of said threaded collet radially inwardly so as to reduce said initial diameter of said collet bore, whereby to clamp the 5 flexible filament to said threaded collet and, in turn, to said bone fixation element;

positioning a flexible filament through said central bore of said bone fixation element, and positioning said bone fixation element in a first bone tunnel portion, and positioning a graft ligament in a second bone tunnel portion by drawing the flexible filament through said bone fixation element; and

10 screwing said threaded collet into said bone fixation element so as to clamp the flexible filament to said collet and hence to said bone fixation 15 element.

4. A method for reconstructing a ligament, said method comprises:

20 providing apparatus for reconstructing a ligament, said apparatus comprising:

a bone fixation element having a distal end
and a proximal end, and a central bore extending
between said distal end and said proximal end, said
central bore having a first diameter, and said bone
fixation element being adapted for positioning in a
5 bone tunnel;

a flexible filament having a distal end and
a proximal end, said distal end having retaining means
for holding a graft ligament, and said flexible
filament having a second diameter smaller than said
first diameter so as to allow said flexible filament
to slidably pass through said central bore of said
bone fixation element, whereby said flexible filament
holding the graft ligament in the bone tunnel is
15 slideably positionable through said central bore of
said bone fixation element; and

a crimp having retaining means for
attachment to said flexible filament, said crimp
having a third diameter, said third diameter being
20 greater than said first diameter, whereby said crimp
is fixedly positionable to said flexible filament

adjacent to said proximal end of said bone fixation
element so as to prevent distal movement of said
flexible filament relative to said bone fixation
element and hence prevent distal movement of said
5 graft ligament in the bone tunnel;

positioning said flexible filament through said
central bore of said bone fixation element, and
positioning said bone fixation element in a first bone
tunnel portion, and positioning a graft ligament in a
second bone tunnel portion by drawing said flexible
filament through said bone fixation element; and

attaching said clamp onto said flexible filament
adjacent to said proximal end of said bone fixation
element so as to prevent movement of said flexible
filament toward said distal end of said bone fixation
element.